PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	ASSESSING SEROPOSITIVITY FOR IgG ANTIBODIES AGAINST SARS-CoV2 IN AHMEDABAD CITY OF INDIA: A CROSS-SECTIONAL STUDY
AUTHORS	Prakash, Om; Solanki, Bhavin; SHETH, JAY; Joshi, Bhavin; Kadam, Mina; Vyas, Sheetal; Shukla, Aparajita; Tiwari, Hemant; Rathod, Sanjay; Rajput, Anil; Trivedi, Toral; Ramanuj, Vaibhav; Solanki, Anand

VERSION 1 – REVIEW

REVIEWER	Kondwani Jambo Malawi-Liverpool-Wellcome Trust Clinical Research Programme, Malawi
REVIEW RETURNED	15-Sep-2020

GENERAL COMMENTS	Om et al. conducted an impressive large serosurvey for SARS-CoV-2 antibodies in Ahmedabad city, India. They report an overall crude seroprevalence estimate of 17.61%. The main strengths of this study include the large sample size and the extensive sampling coverage of the city. However, the presentation style/structure of the paper and interpretation of the results reduces my enthusiasm for the study. Major comments: 1. The authors need to provide references for the validation work done on their ELISA assay. 2. The authors should provide ELISA assay performance data on the inter-lab variability/consistency across their different lab sites. They need to explain in the methods section what measures they put in place to reduce inter-lab variability. 3. The authors need to refrain from equating exposure to protective immunity. It is still not clear what constitutes protective immunity against COVID-19. Hence, there is a need to reconstruct the statements associated with herd immunity throughout the manuscript. 4. May the authors explain why they consider a seroprevalence of 17.64% low? This seroprevalence would be regarded as high in some settings when compared to the reported cases and deaths. 5. The authors should calculate confidence intervals for their seroprevalence estimates and also account for the accuracy (sensitivity and specificity) of the ELISA assay. 6. The authors should include a description of the COVID-19 epidemic in Ahmedabad in the introduction. This description should give a picture to the reader of the situation during the time the research was conducted. It should include the number of reported cases and deaths.

	7. The authors should include the study dates in the methods section. Minor comments: 1. There are some grammatical errors and instances of poor sentence construction throughout the manuscript that needs editing. 2. The authors should consider shortening the introduction to make it more concise.

REVIEWER	Flor H Pujol IVIC. Venezuela
REVIEW RETURNED	07-Oct-2020

GENERAL COMMENTS	The authors analyzed the prevalence of antibodies against SAR-CoV-2 in Ahmedabad city of India. The information is relevant but several concerns should be addressed for publication of this manuscript. Major comments: 1. Details are lacking on the characteristics of the test used for detection of antibodies, as well as the isotype of antibodies tested. 2. The lower prevalence of antibodies in HCW is surprising. Since no information is available on the characteristics of the test used, this raises some concerns on the results shown. Minor comments 3. The authors mentioned the informed consent but did not mention the Ethical Approval by a Committee. 4. The figures and tables are redundant. The suggestion is to maintain preferably most of the figures instead of tables, but including statistical significance 5. Introduction page 6, line 17: should be null instead of is assumed to be negligible. 6. Introduction page 6, lines 19-29: the sentence may be deleted to rephrase in order to specifically address seroprevalence against SARS-CoV-2. The reference cited is not a peer-reviewed one, and might be substituted if possible with a peer-reviewed one. 7. Introduction page 6, line 33: delete sero in sero sample. 8. A previous study of national seroprevalence in India has been performed and should be mentioned in the introduction. 9. Methodology, first paragraph: no reference is cited to support the high sensitivity and specificity of the Covis Kabach test, and against what this test was compared. 10. A lot of logistic information is provided in the Methodoloy, but not on the immunoassay procedure performed. The authors should reduce information not related to the experimental procedure, which is not described. 11. Page 13, line 50: substitute very well correlates by correlates. 12. In general, seroprevalence and seropositive can be a single word. 13. Page 14, line 22: lower instead of low, and HCWs do not have an overall seropositivity but exhibit or present with.

VERSION 1 – AUTHOR RESPONSE

Reviewer's Remarks – 1	
Om et al. conducted an impressive large serosurvey for SARS-CoV-2 antibodies in Ahmedabad city, India. They report an overall crude seroprevalence estimate of 17.61%. The main strengths of this study include the large sample size and the extensive sampling coverage of the city. However, the presentation style/structure of the paper and interpretation of the results reduces my enthusiasm for the study.	Thank you very much. With your suggestions, the style/structure has been updated to a great extent. We are sure, you will find it much improved and interesting for a scientific read now
Major comments	
1.The authors need to provide references for the validation work done on their ELISA assay.	Reference for the Validation work of the Test-kit is now included
2. The authors should provide ELISA assay performance data on the inter-lab variability/consistency across their different lab sites. They need to explain in the methods section what measures they put in place to reduce inter-lab variability.	The inter lab variability was tested by the authority during the validation work. We have included only accredited private labs apart from medical college labs for the purpose of the study. All approved labs undergo regular External quality assurance. However, with large samples and pandemic situation, the inter lab variability was not tested.
3. The authors need to refrain from equating exposure to protective immunity. It is still not clear what constitutes protective immunity against COVID-19. Hence, there is a need to reconstruct the statements associated with herd immunity throughout the manuscript.	We have improved the narrative so as to avoid 'herd immunity' word and so all relevant sentences restructured throughout the manuscript
4. May the authors explain why they consider a seroprevalence of 17.64% low? This seroprevalence would be regarded as high in some settings when compared to the reported cases and deaths.	ICMR study in containment zones showed seroprevalence of 55%. This was highest in Ahmedabad across entire India. That's why the reflex expression of 'low'. We have updated our expression with scientific neutrality and also mentioned the said ICMR study in description and added as reference
5. The authors should calculate confidence intervals for their seroprevalence estimates and also account for the accuracy (sensitivity and specificity) of the ELISA assay.	95% confidence interval added and mentioned in the manuscript as required. CI also added in Table-1
6. The authors should include a description of the COVID-19 epidemic in Ahmedabad in the introduction. This description should give a picture to the reader of the situation during the time the	Covid-19 in Ahmedabad is described with relevant data including cases and deaths. We are sure that this will give a better idea

research was conducted. It should include the number of reported cases and deaths.	about situation of Ahmedabad to the readers
7. The authors should include the study dates in the methods section.	Study dates are mentioned in the methods section
Minor Comment-1 There are some grammatical errors and instances of poor sentence construction throughout the manuscript that needs editing.	We have tried to improve the grammatical errors. Hope that reviewers find it upto the mark now.
Minor Comment-2 The authors should consider shortening the introduction to make it more concise.	Suggestions well taken. Introduction reduced. However, on the other hand due to some remarks related introduction we have to restructure it. We took utmost care to keep it to minimum
Reviewers Remarks -2	
The authors analyzed the prevalence of antibodies against SAR-CoV-2 in Ahmedabad city of India. The information is relevant but several concerns should be addressed for publication of this manuscript.	Thank you. We hope to address all concerns of the respected reviewers.
1. Details are lacking on the characteristics of the test used for detection of antibodies, as well as the isotype of antibodies tested.	Details of Covid-Kavach and its details added as well as added in the reference. It is approved by ICMR – National agency, however the isotype of antibody is not declared anywhere in any official document. We apologise for not adding that details. We have inquired this details but have to submit the article without those details due to submission due date and importance of publishing the data as soon as possible
2. The lower prevalence of antibodies in HCW is surprising. Since no information is available on the characteristics of the test used, this raises some concerns on the results shown.	Agree. This has been mentioned in the article. Actually, with much progressed pandemic situation, the community transmission is playing much more crucial role and better protected HCW are at lower risk. Also, our study included Hospital based as well as field level HCW. This might have affected our finding as well.
Minor Comments	
3. The authors mentioned the informed consent but did not mention the Ethical Approval by a Committee.	Name of the IRB mentioned in the article
4. The figures and tables are redundant. The suggestion is to maintain preferably most of the figures instead of tables, but including statistical significance	Tables are updated for CI. Some cells in the table have updated numbers. This is due to the fact that zones for missing values were inquired and updated. Figures reduced and updated.

5. Introduction page 6, line 17: should be null instead of is assumed to be negligible.	Agree. Updated.
6. Introduction page 6, lines 19-29: the sentence may be deleted to rephrase in order to specifically address seroprevalence against SARS-CoV-2. The reference cited is not a peer-reviewed one, and might be substituted if possible with a peer-reviewed one.	Agree. Modified accordingly. Not only this reference but in the entire manuscript, we tried to update non peer reviewed references with peer reviewed references for all the cited references so far as possible.
7. Introduction page 6, line 33: delete sero in sero sample.	Agree. Text updated accordingly
8. A previous study of national seroprevalence in India has been performed and should be mentioned in the introduction.	The mentioned study is added in reference and appropriately included in the manuscript
9. Methodology, first paragraph: no reference is cited to support the high sensitivity and specificity of the Covis Kabach test, and against what this test was compared.	This has been addressed with validation details and appropriate citation.
10. A lot of logistic information is provided in the Methodoloy, but not on the immunoassay procedure performed. The authors should reduce information not related to the experimental procedure, which is not described.	We included such information for better information of the readers only. But, now we have removed all such unnnecessary logistic information. Rather as per suggestion other relevant details added in the methodology section
11. Page 13, line 50: substitute very well correlates by correlates.	Agree. Appropriately corrected
12. In general, seroprevalence and seropositive can be a single word.	Agree but at times, we find one of them is better over the other. At most places, we tried to stick to one term and modified the manuscript accordingly
13. Page 14, line 22: lower instead of low, and HCWs do not have an overall seropositivity but exhibit or present with.	Agree. We have updated accordingly

VERSION 2 – REVIEW

REVIEWER	Dr Kondwani Jambo Malawi-Liverpool-Wellcome Trust Clinical Research programme, Malawi
REVIEW RETURNED	28-Nov-2020

GENERAL COMMENTS	I am satisfied with the revised manuscript

REVIEWER	Flor Pujol IVIC
REVIEW RETURNED	22-Nov-2020

GENERAL COMMENTS	The authors addressed all the cmments.